

Having thus described the preferred embodiments, the invention is now claimed to be:

1. A cleaning device comprising:
 - a handle assembly;
 - a cleaning head pivotally attached to a first end of said handle assembly and configured for receiving a replaceable cleaning pad for collecting dirt from a floor surface to be cleaned;
 - a spray nozzle mounted on one of said cleaning head and said handle assembly for delivering a cleaning fluid to a floor surface to be cleaned;
 - a liquid delivery system which delivers cleaning fluid to said spray nozzle, at least a portion of said liquid delivery system being carried by said handle assembly;
 - a suction nozzle carried by said cleaning head;
 - a dirt collection assembly for collecting dirt and in fluid communication with said suction nozzle, said dirt collection assembly being carried by one of said handle assembly and said cleaning head; and
 - a source of suction, carried by one of said handle assembly and said cleaning head, said source of suction being fluidly connected with said dirt collection assembly, for creating a flow of working air which draws dirt from said suction nozzle into said dirt collection assembly.
2. The cleaning device of claim 1, wherein said dirt collection assembly includes a dirt cup which is removably mounted on said handle assembly.
3. The cleaning device of claim 1, wherein the suction nozzle is pivotally mounted to said cleaning head.
4. The cleaning device of claim 1, wherein the suction nozzle is movable between a floor suctioning position, in which the suction nozzle is positioned adjacent the floor surface to be cleaned and a retracted position, in which the suction nozzle is positioned away from the floor surface.
5. The cleaning device of claim 1, wherein the liquid delivery system includes a fluid supply pump.
6. The cleaning device of claim 1, further including a switch which is

movable between a first position, for selectively actuating said source of suction, and a second position.

7. The cleaning device of claim 6, wherein when said switch is in said second position, the flow of working air is stopped and the liquid delivery system is actuated.

8. The cleaning device of claim 6, wherein said switch is movable to an intermediate position between said first and second positions.

9. The cleaning device of claim 8, wherein said switch is biased to said intermediate position.

10. The cleaning device of claim 1, further comprising:
a multiple axis joint which interconnects said cleaning head and said handle assembly.

11. The cleaning device of claim 1, wherein said cleaning head has a substantially flat lower surface.

12. The cleaning device of claim 11, wherein said cleaning pad is selectively mounted adjacent said lower surface.

13. The cleaning device of claim 1, wherein said spray nozzle is attached to an upper surface of said cleaning head.

14. The cleaning device of claim 1, wherein the spray nozzle is carried by the suction nozzle.

15. The cleaning device of claim 1, wherein said handle assembly includes an elongate handle and a housing mounted to said handle, said housing defining a socket for selectively receiving said dirt collection assembly.

16. A cleaning device comprising:
a housing;
a suction fan and motor assembly mounted to said housing;
a cleaning head pivotally mounted to said housing, said cleaning head selectively holding a cleaning pad for collecting dust and debris from a surface to be cleaned;
a suction nozzle carried by said cleaning head;
a dirt collecting receptacle mounted to said housing and in fluid

communication with said suction nozzle and said suction fan and motor assembly;

at least one spray nozzle disposed on at least one of said suction nozzle and said cleaning head; and

a liquid delivery system for delivering a cleaning fluid to said at least one spray nozzle, wherein at least a portion of said liquid delivery system is mounted on said housing.

17. The cleaning device of claim 16, further comprising a conduit extending between said suction nozzle and said dirt collecting receptacle.

18. The cleaning device of claim 17, wherein said conduit comprises a flexible hose.

19. The cleaning device of claim 15, wherein said dirt collecting receptacle comprises a dirt cup.

20. The cleaning device of claim 19, further comprising a latch for selectively securing said dirt cup to said housing.

21. The cleaning device of claim 19, wherein said dirt cup comprises an inlet and an outlet, wherein said inlet communicates with an outlet of said suction nozzle and said dirt cup outlet communicates with an inlet of said suction fan and motor assembly.

22. The cleaning device of claim 19, further comprising a filter detachably mounted to said dirt cup.

23. The cleaning device of claim 22, further comprising a baffle mounted in said dirt cup intermediate said filter and said dirt cup.

24. The cleaning device of claim 16, wherein said cleaning head is pivotably connected to said housing via a universal joint.

25. The cleaning device of claim 16, wherein said cleaning head is generally rectangular with a generally flat bottom surface.

26. The cleaning device of claim 16, further comprising at least one battery mounted to said housing for powering said suction fan and motor.

27. The cleaning device of claim 16, wherein said cleaning head

comprises a bottom surface including at least one securing member for securing said cleaning pad to said cleaning head.

28. The cleaning device of claim 16, wherein said cleaning head includes a support plate, said support plate being pivotally connected with said housing and carrying said spray nozzle and said suction nozzle on an upper surface thereof.

29. The cleaning device of claim 28, wherein said spray nozzle is mounted to said suction nozzle.

30. The cleaning device of claim 29, wherein said suction nozzle is movably mounted to said cleaning head, said spray nozzle moving as the suction nozzle is moved.

31. The cleaning device of claim 28, wherein the suction nozzle is movable between a suctioning position, in which said suction nozzle is positioned adjacent to a surface to be cleaned, and a retracted position, in which said suction nozzle is spaced away from said surface.

32. The cleaning device of claim 31, wherein the suction nozzle includes first and second arms which are pivotally mounted to the cleaning head adjacent distal ends thereof, at least one of the arms having a first indent and a second indent for selectively engaging a detent associated with the cleaning head, such that when the first indent engages the detent, the suction nozzle is positioned adjacent to a surface to be cleaned, and when the second indent engage the detent, the suction nozzle is positioned in the retracted position.

33. The cleaning device of claim 16, further comprising a handle mounted to said housing.

34. The cleaning device of claim 33, further comprising a switch located on said handle for controlling an actuation of at least one of said suction fan and motor assembly and said fluid distribution system.

35. The cleaning device of claim 34, wherein said switch has a first position in which said suction fan and motor assembly is actuated and said fluid delivery system is disabled and a second position in which said fluid delivery system is actuated and said suction fan and motor assembly is

disabled.

36. A cleaning device comprising:
a cleaning head selectively holding a cleaning pad;
a handle for directing said cleaning head along a surface to be cleaned;
a housing mounted to at least one of said handle and said cleaning head;
a suction fan and motor assembly mounted to said housing;
a dirt collecting receptacle mounted to said housing;
a suction nozzle fluidly connected with said dirt collecting receptacle; and
a liquid delivery system mounted to at least one of said housing and said suction nozzle for delivering a cleaning solution to the surface to be cleaned, the liquid delivery system including a spray nozzle carried by one of the suction nozzle, the handle, and the cleaning head.

37. The cleaning device of claim 36, wherein said dirt collecting receptacle comprises a dirt cup.

38. The cleaning device of claim 36, wherein said dirt collecting receptacle comprises a dirt cup, a baffle, and a filter member.

39. The cleaning device of claim 38, wherein said baffle is removably mounted in said dirt cup.

40. The cleaning device of claim 39, wherein said filter member is removably mounted to said baffle.

41. The cleaning device of claim 36, further comprising a switch for alternatively actuating said suction fan and motor assembly and said liquid delivery system.

42. A cleaning device comprising:
a housing;
a suction nozzle communicating with said housing;
a suction fan and motor assembly mounted to said housing;
a dirt collecting receptacle mounted to said housing and in fluid communication with said suction nozzle and said suction fan and motor assembly;
a liquid delivery system mounted to said housing for delivering a cleaning solution to a surface to be cleaned;
a handle mounted to said housing for grasping to move said cleaning

device along the surface to be cleaned;

a switch for actuating at least one of said suction fan and motor assembly and said liquid delivery system; and

a cleaning head pivotally mounted to said housing, said cleaning head selectively holding a cleaning pad for collecting dust and debris from a surface to be cleaned.

43. The cleaning device of claim 42, wherein said switch is located on said handle.

44. The cleaning device of claim 43, wherein said suction fan and motor assembly are operated only while said switch is moved to a first position.

45. The cleaning device of claim 44, wherein said liquid delivery system is operated only while said switch is moved to a second position.

46. The cleaning device of claim 45, wherein the fluid delivery system includes a pump which is actuated by said switch in said second position.

47. The cleaning device of claim 45, wherein said switch is biased to a third, off, position between said first and second positions.

48. A cleaning device having two separate and distinct modes of operation, wherein a first mode of operation comprises suctioning debris from a surface to be cleaned, and a second mode of operation comprises application of a cleaning liquid to the surface, a cleaning pad being used to collect dirty cleaning liquid and dust and debris from the surface to be cleaned, said cleaning device comprising:

a housing;

a suction fan and motor assembly mounted to said housing;

a dirt collecting receptacle mounted to said housing;

a suction nozzle fluidly connected with said suction fan and motor assembly and said dirt collecting receptacle for performing said first mode of operation;

a liquid delivery system mounted at least in part to said housing for delivering a cleaning liquid to the surface during said second mode of operation; and,

a cleaning head pivotally mounted to said housing, said cleaning head selectively holding said cleaning pad used during said second mode of

operation.

49. The cleaning device of claim 48, wherein said two modes of operation are mutually exclusive.

50. A cleaning device having a liquid delivery system for cleaning a surface, comprising:

an elongate handle assembly having first and second ends;

a cleaning head pivotally mounted to said first end of said handle assembly;

a cleaning pad mounted to said cleaning head for collecting dirty cleaning liquid and dust and debris from a surface to be cleaned;

a suction nozzle carried by one of said cleaning head and said elongate handle assembly and pivotable between a first position, in which the nozzle is located adjacent the surface to be cleaned, and a second position, in which the nozzle is spaced away from the surface to be cleaned; and

a spray nozzle for spraying liquid from said liquid delivery system in a first cleaning mode, said spray nozzle being mounted to one of said cleaning head, said handle, and said suction nozzle, said suction nozzle being used in a second cleaning mode of the cleaning device.

51. The cleaning device of claim 50, wherein said cleaning head is pivotally mounted to said first end by a universal joint such that said cleaning head is pivotable relative to said housing about first and second axis.

52. The cleaning device of claim 50, further including a latch which engages the suction nozzle in at least one of said first and second positions.

53. The cleaning device of claim 50, further comprising a suction motor/fan assembly fluidly connected to said suction nozzle and a filter chamber fluidly connected to both said suction nozzle and said suction motor/fan assembly.

54. A method of cleaning a surface with a device comprising a handle assembly and a cleaning head pivotally attached to said handle assembly, the method comprising:

applying a cleaning solution to the surface from a liquid delivery system at least partially mounted on said handle assembly to a spray nozzle carried by said suction nozzle; and

directing the cleaning head over the surface with the handle assembly

such that dirty cleaning solution from the surface is transferred to the cleaning head; and

selectively suctioning dirt and dirty cleaning solution from the surface through a suction nozzle attached to one of said cleaning head and said handle assembly.

55. The method of claim 54, wherein the suctioning and applying steps are controlled by a switch, the suctioning step including the subsidiary step of moving the switch to a first position which causes suction to be applied to the suction nozzle and prevents the liquid delivery system from applying cleaning solution to the surface, and the applying step including the subsidiary step of moving the switch to a second position in which the suction is not applied to the suction nozzle and causes the liquid delivery system to apply cleaning solution to the surface.

56. The method of claim 54, further including:
moving the suction nozzle to a position away from the floor surface; and
fitting a cleaning pad to the cleaning head.

57. A cleaning device comprising:
a suction nozzle;
a dirt collection assembly for collecting dirt and in fluid communication with said suction nozzle, the dirt collection assembly including:
a dirt cup configured for collecting a first portion of the dirt,
a baffle received within the dirt cup, the baffle providing a tortuous path for air and entrained dirt, the baffle defining a dirt receiving region configured for collecting a second portion of the dirt, and
a filter received within the dirt cup; and
a source of suction, fluidly connected with said dirt collection assembly, for creating a flow of working air which draws dirt from said suction nozzle into said dirt collection assembly such that a first portion of the dirt is collected in said dirt cup, and a second portion of the dirt is collected in the baffle receiving region, and a remaining portion of the dirt is removed by said filter.

58. The cleaning device of claim 57, wherein the baffle defines a chamber with an opening through which the air and entrained dirt enters the chamber, and wherein the collection region includes a well at a lower end of the

chamber, said well comprising said dirt receiving region.

59. The cleaning device of claim 57, further including a cleaning pad, a reservoir for containing a cleaning solution, and cleaning solution delivery system.

60. The cleaning device of claim 59, further including an actuation system for selectively actuating said cleaning solution delivery system and source of suction.